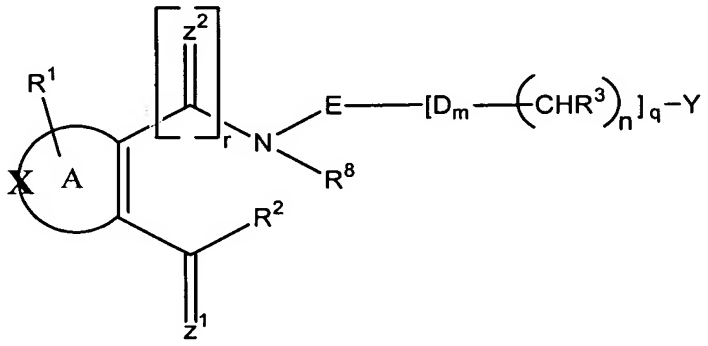
CLAIMS:

1. A compound capable of binding to the ubiquinone binding site of DHODH which contains an aromatic or non-aromatic ring system as a core structure, a group capable of forming a hydrogen bond and/or interacting ionically with structural elements of subsite 2 or 3 of the ubiquinone binding site of DHODH and a group capable of interacting hydrophobically with structural elements of subsite 1 of the ubiquinone binding site of DHODH

   with the proviso that the following compounds are excluded:
   compounds of the general formula



   wherein

   A is a non-aromatic ring system containing five carbon atoms, wherein the ring system comprises at least one double bond and wherein one or more of the carbon atoms in the ring can be replaced by a group X, wherein X is selected from the group consisting of S, O, N, NR^4, SO or SO_2, and wherein one or more of the carbon atoms of the ring can carry a substituent R^1;

   D is O, S, SO_2, NR^4, or CH_2;
   Z^1 and Z^2 are independent from each other O, S, or NR^5 ;
   R^1 is independently H, halogen, haloalkyl, haloalkyloxy or alkyl;
   R^2 is H, OR^6, or NHR^7;
   R^3 is H, alkyl, cycloalkyl, aryl, arylalkyl, alkoxy, O-aryl; O-cycloalkyl, halogen, aminoalkyl, alkylamino, hydroxylamino, hydroxylalkyl, haloalkyl, haloalkyloxy, heteroaryl, alkylthio, S-aryl, or S-cycloalkyl;
   R^4 is H, alkyl, cycloalkyl, aryl, or heteroaryl;
   R^5 is H, OH, alkoxy, O-aryl, alkyl, or aryl;

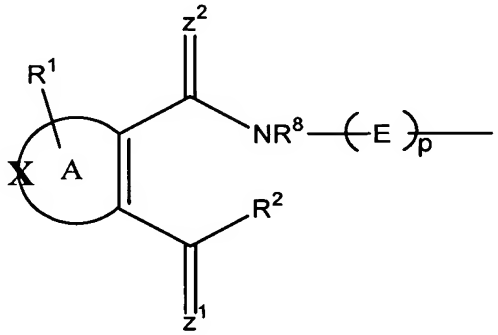
R^6 is H, alkyl, cycloalkyl, aryl, heteroaryl, arylalkyl, alkylaryl, alkoxyalkyl, acylmethyl, (acyloxy)alkyl, non-symmetrical (acyloxy)alkyldiester, or dialkylphosphate;

R^7 is H, alkyl, aryl, alkoxy, O-aryl, cycloalkyl, or O-cycloalkyl;

R^8 is hydrogen or alkyl;

E is an alkyl or cycloalkyl group or a monocyclic or polycyclic substituted or unsubstituted ring system which may contain one or more groups X and which contains at least one aromatic ring;

Y is hydrogen, halogen, haloalkyl, haloalkyloxy, alkyl, cycloalkyl, a monocyclic or polycyclic substituted or unsubstituted ring system which may contain one or more groups X and which contains at least one aromatic ring or



m is 0 or 1;

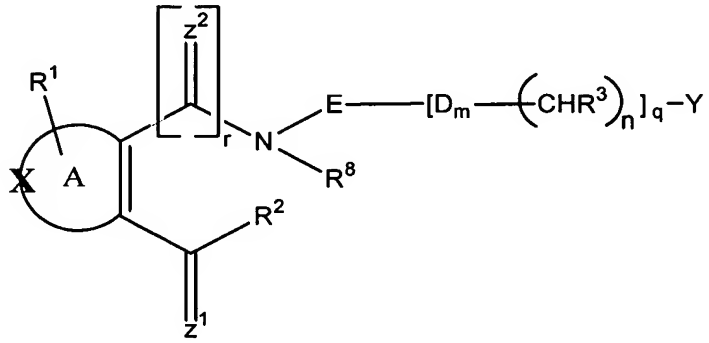
n is 0 or 1;

p is 0 or 1;

r is 0 or 1; and

q is 0 to 10;

and compounds of the general formula



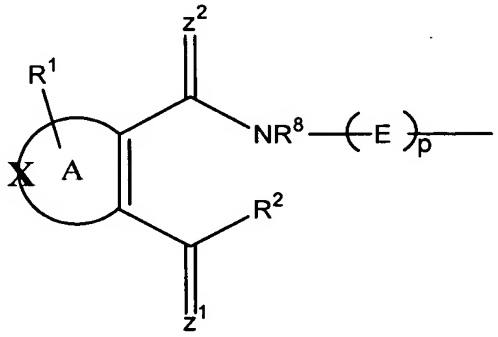
wherein

A is a non-aromatic ring system containing 4, 6, 7 or 8 carbon atoms, wherein the ring system comprises at least one double bond and wherein one or more of the carbon atoms in the ring can be replaced by a group X, wherein X is selected from the group consisting of S, O, N, NR^4, SO or SO_2, and wherein one or more of the carbon atoms of the ring can carry a substituent R^1;

D, Z^1, Z^2, R^1, R^3, R^4, R^5, R^6, R^8, and E are as defined above,

R^2 is H, or OR^6;

Y is a monocyclic or polycyclic substituted or unsubstituted ring system which may contain one or more groups X and which contains at least one aromatic ring or



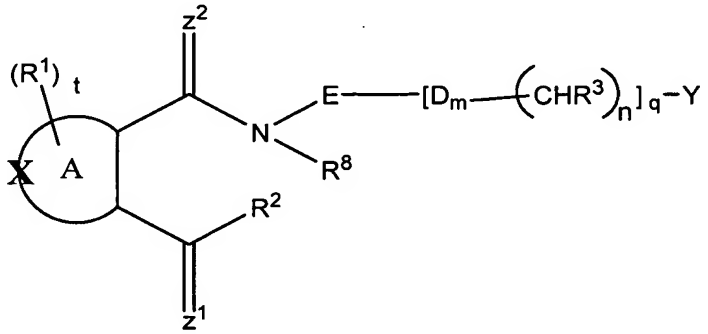
m, n, p, r, and q are as defined above.

2. The compound of claim 1 wherein the non-aromatic ring system is a monocyclic ring.
3. The compound of claim 1 wherein the non-aromatic ring system is a 5-membered ring.
4. The compound of claim 1 wherein the 5-membered ring is a cyclopentene ring.
5. The compound of claim 1 wherein the group connecting the core with the hydrophobic group is bonded to the carbon atom participating in the double bond of the cyclopentene ring.
6. The compound of claim 1 wherein the non-aromatic ring system is an optionally substituted ring system containing 4 to 8 carbon atoms, wherein the ring system comprises at least one double bond and wherein one or more of the carbon atoms in the ring may be substituted by a group X, wherein X is selected from the group consisting of S, O, N, NH, NHR, SO or SO_2 and R is an alkyl group or an unsaturated or saturated carbocycle.

7. The compound of claim 1 wherein the non-aromatic ring system is a condensed ring system comprising a 5-membered non-aromatic ring and a 6-membered aromatic or non-aromatic ring.
8. The compound of claim 7 wherein the 6-membered ring contains one or two nitrogen atoms as heteroatom(s).
9. The compound of claim 8 wherein the group connecting the core with the hydrophobic group is bonded to said nitrogen heteroatom or one of said nitrogen atoms.
10. The compound of claim 1 wherein the group capable of forming a hydrogen bond and/or interacting ionically with structural elements of subsite 2 or 3 is capable of binding alternatively to said subsite 2 or subsite 3.
11. The compound of claim 1 containing an additional group capable of forming a hydrogen bond and/or ionically interacting with structural elements of subsite 2 or 3.
12. The compound of claim 1 containing an additional group capable of forming a hydrogen bond and/or ionically interacting with structural elements of subsite 2 or 3 and wherein one group is capable of interacting with subsite 2 and the other group is capable of interacting with subsite 3.
13. The compound of claim 1 wherein the group capable of forming a hydrogen bond and/or interacting ionically with structural elements of subsite 2 or 3 is capable of binding to said subsite 3 only.
14. A compound capable of binding to the ubiquinone binding site of DHODH which contains a ring system as a core structure, a group capable of forming a hydrogen bond and/or interacting ionically with residues His 56 and/or Tyr 356 of subsite 3 of the ubiquinone binding site of DHODH and a group capable of interacting hydrophobically with structural elements of subsite 1 of the ubiquinone binding site of DHODH.
15. The compound of claim 14 wherein the group capable of interacting with subsite 3 of DHODH forms a hydrogen bond with residue Tyr 147 of subsite 3 of DHODH.
16. The compound of claim 14 wherein the group capable of forming a hydrogen bond and/or interacting ionically is capable of binding to said subsite 3 only.
17. The compound of claim 14 additionally containing a group capable of forming a hydrogen bond and/or interacting ionically with subsite 2 of the ubiquinone binding site of DHODH.
18. The compound of claim 14 wherein the ring system is an aromatic ring system.
19. The compound of claim 1 which is crystallizable with DHODH.

20. The compound of claim 1 wherein the group connecting the core with the hydrophobic group is selected from –NH-, -O-, -CO-, -NHCONH-, -NHCO- and –CONH-.
21. The compound of claim 1 wherein the group capable of interacting with subsite 2 and/or 3 of DHODH is at least one group selected from the group consisting of -SO_3H, -OH, -NO_2, -CN, CF_3, =O, and –COOH.
22. The compound of claim 1 wherein the group capable of interacting with subsite 2 or 3 of DHODH is an anion.
23. The compound of claim 1 wherein the group capable of interacting with subsite 2 or 3 of DHODH is a carboxylic group.
24. The compound of claim 1 wherein the group capable of interacting with subsite 2 or 3 of DHODH is an anion which interacts with residues Gln 47 and/or Arg 136 of subsite 2 of DHODH.
25. The compound of claim the group capable of interacting with subsite 2 or 3 of DHODH is a carboxylic group which is a substituent of the ring system.
26. The compound of claim 1 wherein the hydrophobic group is capable of interacting with the hydrophobic pocket of subsite 1 of DHODH comprising amino acid residues Leu 142, Met 43, Leu 46, Ala 55, Ala 59, Phe 98, Met 111, Leu 359, and Pro 364.
27. The compound of claim 1 wherein the hydrophobic group is selected from optionally substituted monocyclic or bicyclic aryl groups.
28. The compound of claim 1 wherein the hydrophobic group is an optionally substituted biphenyl group.
29. The compound of claim 1 wherein the hydrophobic group is an optionally substituted benzyl phenyl ether group.
30. The compound of claim 1 wherein the hydrophobic group has at least one substituent selected from the group consisting of F, Cl, Br, I, CF_3, OCF_3, and OCH_3.
31. The compound of claim 1 wherein the DHODH is human DHODH consisting of amino acids Met30 to Arg396.
32. The compound of claim 1 having an IC50 value in the DHODH activity test of less than 500 nM.
33. The compound of claim 1 having an IC50 value of less than 300 nM.
34. The compound of claim 1 having an IC50 value of less than 100 nM.
35. A compound of claim 1 which inhibits the proliferation of human PBMC`s by more than 50 % with and IC50 of less than 100 μM.

36. The compound of claim 1 which inhibits the proliferation of human PBMC`s by more than 50 % with and IC50 of less than 50 μM
37. The compound of claim 1 which inhibits the proliferation of human PBMC`s by more than 50 % with and IC50 of less than 10 μM.
38. The compound of claim 1 which inhibits the proliferation of human PBMC`s by more than 50 % with and IC50 of less than 5 μM.
39. The compound of claim 1 which is a compound of the general formula (I)



or salts or isomeres thereof, wherein

A is a 4-8 membered non-aromatic ring system, wherein one or more of the carbon atoms in the ring can be replaced by a group X, wherein X is selected from the group consisting of S, O, N, NR^4, SO, CO or SO_2;

D is O, S, SO_2, NR^4 or CH_2;

Z^1 and Z^2 are independent from each other O, S, or NR^5 ;

R^1 independently represents H, halogen, haloalkyl, haloalkyloxy $-CO_2R``$, $-SO_3H$, -OH, $-CONR^*R``$, $-CR``O$, $-SO_2-NR^*R``$, $-NO_2$, $-SO_2-R``$, -SO-R*, -CN, alkoxy, alkylthio, aryl, $-NR``-CO_2-R`$, $-NR``-CO-R^*$, $-NR``-SO_2-R`$, $-O-CO-R^*$, $-NR^*R``$, $-NR^*OR``-O-CO_2-R^*$, $-O-CO-NR^*R``$; cycloalkyl, alkylamino, hydroxyalkylamino, -SH, heteroaryl, or alkyl;

R* independently represents H, alkyl, cycloalkyl, aminoalkyl, alkoxy, -OH, -SH, alkylthio, hydroxyalkyl, haloalkyl, haloalkyloxy, aryl or heteroaryl;

R` independently represents H, $-CO_2R``$, $-CONHR``$, $-CR``O$, $-SO_2NR``$, $-NR``-CO$-haloalkyl, $-NO_2$, $-NR``-SO_2$-haloalkyl, $-NR``-SO_2$-alkyl, $-SO_2$-alkyl, $-NR``-CO$-alkyl, -CN, alkyl, cycloalkyl, aminoalkyl, alkylamino, alkoxy, -OH, -SH, $-NR``R^*$, $-NR``OR^*$, alkylthio, hydroxyalkyl,

hydroxyalkylamino, halogen, haloalkyl, haloalkyloxy, aryl, arylalkyl or heteroaryl;

R`` independently represents hydrogen, haloalkyl, hydroxyalkyl, alkyl, cycloalkyl, aryl, heteroaryl or aminoalkyl;

R^2 is H, OR^6, NHR^7, or R^2 togehter with the nitrogen atom to which R^8 is attached forms a 5 or 6 membered heterocyclic ring with the proviso that R^2 is $-[CH_2]_{0-3}$ and R^8 is absent;

R^3 is H, alkyl, cycloalkyl, aryl, arylalkyl, alkoxy, O-aryl; O-cycloalkyl, halogen, aminoalkyl, alkylamino, hydroxylamino, hydroxylalkyl, haloalkyl, haloalkyloxy, heteroaryl, alkylthio, S-aryl, or S-cycloalkyl;

R^4 is H, alkyl, cycloalkyl, aryl, or heteroaryl;

R^5 is H, OH, alkoxy, O-aryl, alkyl, or aryl;

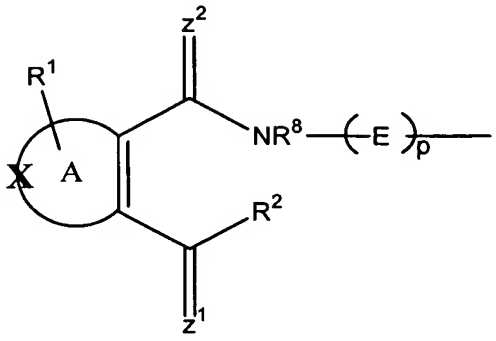
R^6 is H, alkyl, cycloalkyl, aryl, heteroaryl, arylalkyl, alkylaryl, alkoxyalkyl, acylmethyl, (acyloxy)alkyl, non-symmetrical (acyloxy)alkyldiester, or dialkylphosphate;

R^7 is H, alkyl, aryl, alkoxy, O-aryl, cycloalkyl, or O-cycloalkyl;

R^8 is hydrogen or alkyl;

E is an alkyl or cycloalkyl group or a monocyclic or polycyclic substituted or unsubstituted ring system which may contain one or more groups X and which contains at least one aromatic ring;

Y is hydrogen, halogen, haloalkyl, haloalkyloxy, alkyl, cycloalkyl, a monocyclic or polycyclic substituted or unsubstituted ring system which may contain one or more groups X and which contains at least one aromatic ring or



m is 0 or 1;

n is 0 or 1;

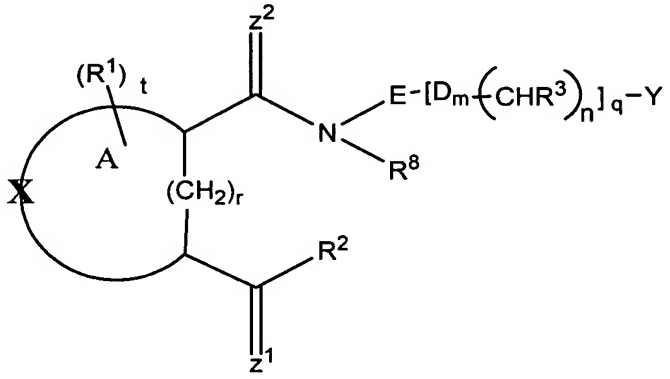
p is 0 or 1;

q is 0 or 1;

t is 1 to 3;

with the proviso that trans-2-[4-(Naphthalin-2-yl)thiazol-2-ylaminocarbonyl]cyclopentane carboxylic acid is excluded.

40. The compound of claim 1 which is a compound of the general formula (II)



or salts or isomeres thereof, wherein

A is a 3-8 membered non-aromatic ring system, wherein the ring system comprises at least one double bond and wherein one or more of the carbon atoms in the ring can be replaced by a group X, wherein X is selected from the group consisting of S, O, N, NR^4, SO, CO or SO_2, wherein, when r = 0,

there is no double bond between the carbon atoms carrying the substituents $-CZ^1-$ and $-CZ^2-$;

D is O, S, SO_2, NR^4 or CH_2;

Z^1 and Z^2 are independent from each other O, S, or NR^5 ;

R^1 independently represents H, halogen, haloalkyl, haloalkyloxy $-CO_2R``$, $-SO_3H$, -OH, $-CONR^*R``$, $-CR``O$, $-SO_2-NR^*R``$, $-NO_2$, $-SO_2-R``$, -SO-R*, -CN, alkoxy, alkylthio, aryl, $-NR``-CO_2-R`$, $-NR``-CO-R^*$, $-NR``-SO_2-R`$, $-O-CO-R^*$, $-NR^*R``$, $-NR^*OR``-O-CO_2-R^*$, $-O-CO-NR^*R``$; cycloalkyl, alkylamino, hydroxyalkylamino, -SH, heteroaryl, or alkyl;

R* independently represents H, alkyl, cycloalkyl, aminoalkyl, alkoxy, -OH, -SH, alkylthio, hydroxyalkyl, haloalkyl, haloalkyloxy, aryl or heteroaryl;

R` independently represents H, $-CO_2R``$, $-CONHR``$, $-CR``O$, $-SO_2NR``$, $-NR``-CO$-haloalkyl, $-NO_2$, $-NR``-SO_2$-haloalkyl, $-NR``-SO_2$-alkyl, $-SO_2$-alkyl, $-NR``-CO$-alkyl, -CN, alkyl, cycloalkyl, aminoalkyl, alkylamino, alkoxy, -OH, -SH, $-NR``R^*$, $-NR``OR^*$, alkylthio, hydroxyalkyl, hydroxyalkylamino, halogen, haloalkyl, haloalkyloxy, aryl, arylalkyl or heteroaryl;

R`` independently represents hydrogen, haloalkyl, hydroxyalkyl, alkyl, cycloalkyl, aryl, heteroaryl or aminoalkyl;

R^2 is H, OR^6, NHR^7, $NHOR^6$ or R^2 togehter with the nitrogen atom to which R^8 is attached forms a 5 or 6 membered heterocyclic ring with the proviso that R^2 is $-[CH_2]_{0-3}$ and R^8 is absent;

R^3 is H, alkyl, cycloalkyl, aryl, arylalkyl, alkoxy, O-aryl; O-cycloalkyl, halogen, aminoalkyl, alkylamino, hydroxylamino, hydroxylalkyl, haloalkyl, haloalkyloxy, heteroaryl, alkylthio, S-aryl, or S-cycloalkyl;

R^4 is H, alkyl, cycloalkyl, aryl, or heteroaryl;

R^5 is H, OH, alkoxy, O-aryl, alkyl, or aryl;

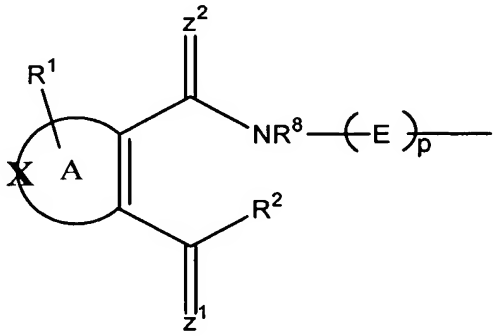
R^6 is H, alkyl, cycloalkyl, aryl, heteroaryl, arylalkyl, alkylaryl, alkoxyalkyl, acylmethyl, (acyloxy)alkyl, non-symmetrical (acyloxy)alkyldiester, or dialkylphosphate;

R^7 is H, alkyl, aryl, alkoxy, O-aryl, cycloalkyl, or O-cycloalkyl;

R^8 is hydrogen or alkyl;

E is an alkyl or cycloalkyl group or a monocyclic or polycyclic substituted or unsubstituted ring system which may contain one or more groups X and which contains at least one aromatic ring;

Y is hydrogen, halogen, haloalkyl, haloalkyloxy, alkyl, cycloalkyl, a monocyclic or polycyclic substituted or unsubstituted ring system which may contain one or more groups X and which contains at least one aromatic ring or



m is 0 or 1;

n is 0 or 1;

p is 0 or 1;

r is 0 or 1; and

q is 0 or1;

t is 1 to 3;

41. The compound according to claim 39, wherein R^1 is selected from the group consisting of OH, CO_2H and SO_3H.

42. The compound according to claim 39, wherein both Z^1 and Z^2 are O.

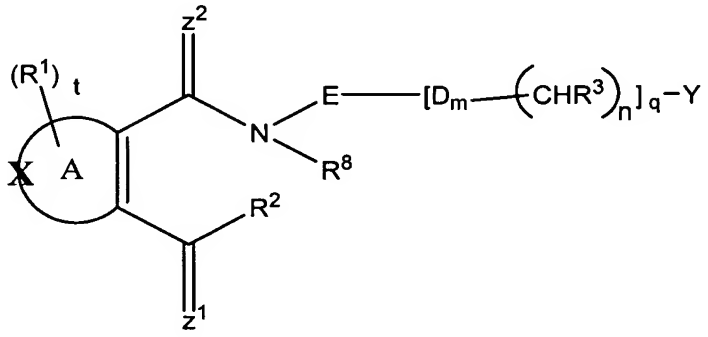
43. The compound according to claim 39, wherein E is selected from the group consisting of phenyl, 1-naphtyl, 2-naphthyl, 1-anthracyl and 2-anthracyl and is optionally substituted with one or more substituents R`.

44. The compound according to claim 39, wherein q=0, t=1, A is a carbocyclic non-aromatic ring system, Y is H or F, and E is phenyl which is optionally substituted with at least one substituent selected from the group consisting of Cl, F, CF_3, OCF_3, O-methyl and O-ethyl.

45. The compound according to claim 39, wherein q=0, t=1, A is a carbocyclic non-aromatic ring system, and E and Y are phenylene and phenyl, respectively, wherein E is optionally substituted with at least one substituent selected from the group consisting of Cl and F and Y is optionally substituted with at least one substituent selected from the group consisting of O-methyl, O-ethyl, OCF_3, Cl and F.

46. The compound according to claim 39, wherein Y and -NCR^8 are in para position on E.

47. A compound of the general formula (II) and salts and physiologically functional derivatives thereof,



wherein

A is a heteroaromatic 5-membered ring system containing one or more groups X selected from the group consisting of S, O, N, NR^4, SO_2 and SO;

D is O, S, SO_2, NR^4, or CH_2;

Z^1 and Z^2 are independent from each other O, S, or NR^5;

R^1 independently represents H, halogen, haloalkyl, haloalkyloxy -$CO_2R``$, -$SO_3H$, -OH, -CONR*R``, -CR``O, -$SO_2$-NR*R``, -$NO_2$, -$SO_2$-R``, -SO-R*, -CN, alkoxy, alkylthio, aryl, -NR``-$CO_2$-R`, -NR``-CO-R*, -NR``-$SO_2$-R`, -O-CO-R*, -O-$CO_2$-R*, -O-CO-NR*R``; cycloalkyl, alkylamino, hydroxyalkylamino, -SH, heteroaryl, or alkyl;

R* independently represents H, alkyl, cycloalkyl, aminoalkyl, alkoxy, -OH, -SH, alkylthio, hydroxyalkyl, haloalkyl, haloalkyloxy, aryl or heteroaryl;

R` independently represents H, -$CO_2R``$, -CONHR``, -CR``O, -$SO_2NR``$, -NR``-CO-haloalkyl, -$NO_2$, -NR``-SO_2-haloalkyl, -NR``-$SO_2$-alkyl, -$SO_2$-alkyl, -NR``-CO-alkyl, -CN, alkyl, cycloalkyl, aminoalkyl, alkylamino, alkoxy, -OH, -SH, alkylthio, hydroxyalkyl, hydroxyalkylamino, halogen, haloalkyl, haloalkyloxy, aryl, arylalkyl or heteroaryl;

R`` independently represents hydrogen, haloalkyl, hydroxyalkyl, alkyl, cycloalkyl, aryl, heteroaryl or aminoalkyl;

R^2 is H or OR^6, NHR^7, NR^7OR^7 or R^2 togehter with the nitrogen atom which is attached to R^8 form a 5 or 6 membered heteroyclic ring with the proviso that R^2 is -$[CH_2]_s$ and R^8 is absent;

R^3 is H, alkyl, cycloalkyl, aryl, alkoxy, O-aryl; O-cycloalkyl, halogen, aminoalkyl, alkylamino, hydroxylamino, hydroxylalkyl, haloalkyloxy, heteroaryl, alkylthio, S-aryl; S-cycloalkyl, arylalkyl, or haloalkyl;

R^4 is H, alkyl, cycloalkyl, aryl or heteroaryl;

R^5 is H, OH, alkoxy, O-aryl, alkyl or aryl;

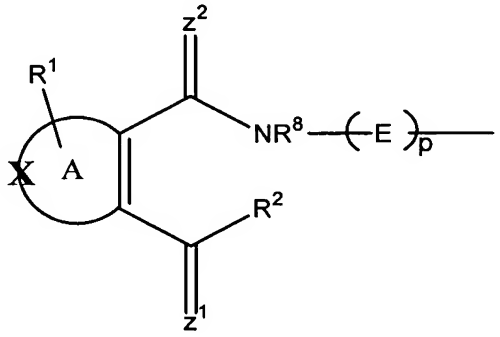
R^6 is H, alkyl, cycloalkyl, aryl, arylalkyl, heteroaryl, alkylaryl, alkoxyalkyl, acylmethyl, (acyloxy)alkyl, non-symmetrical (acyloxy)alkyldiester, or dialkylphosphate;

R^7 is H, OH, alkyl, aryl, alkoxy, O-aryl, cycloalkyl, or O-cycloalkyl;

R^8 is hydrogen, or alkyl;

E is an alkyl or cycloalkyl group or a monocyclic or polycyclic substituted or unsubstituted ring system which may contain one or more groups X and which contains at least one aromatic ring;

Y is hydrogen, halogen, haloalkyl, haloalkyloxy, alkyl, cycloalkyl, a monocyclic or polycyclic substituted or unsubstituted ring system which may contain one or more groups X and which contains at least one aromatic ring or



m is 0 or 1;

n is 0 or 1;

p is 0 or 1;

q is 0 or 1;

s is 0 to 2; and

t is 0 to 3;

with the proviso that the following compounds are excluded:

compounds wherein ring A contains five atoms, $Z^1=Z^2=O$, and R^2 togehter with the nitrogen atom which is attached to R^8 forms a 5 membered heteroyclic ring with the proviso that R^2 is $-[CH_2]_s$, R^8 is absent and s is 0;

compounds wherein ring A contains three carbon atoms and two nitrogen atoms, $Z^1=Z^2=O$, and R^2 togehter with the nitrogen atom which is attached to R^8 form a 5 membered heteroyclic ring with the proviso that R^2 is $-[CH_2]_s$, R^8 is absent and s is 0;

4-[4-(naphthalin-2-yl) thiazol-2-ylaminocarbonyl]-furan-3-carboxylic acid; and

5-[4-(naphthalin-2-yl]thiazol-2-ylaminocarbonyl]-2H-[1,2,3]-triazole-4-carboxylic acid.

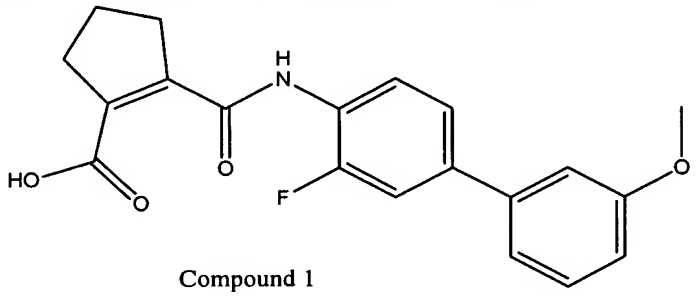
48. A crystal containing a polypeptide and a compound of claim 1 wherein the polypeptide includes a ubiquinone binding site of DHODH.

49. A crystal containing a polypeptide and a compound of claim 39 wherein the polypeptide includes a ubiquinone binding site of DHODH.

50. A crystal containing a polypeptide and a compound of claim 40 wherein the polypeptide includes a ubiquinone binding site of DHODH.

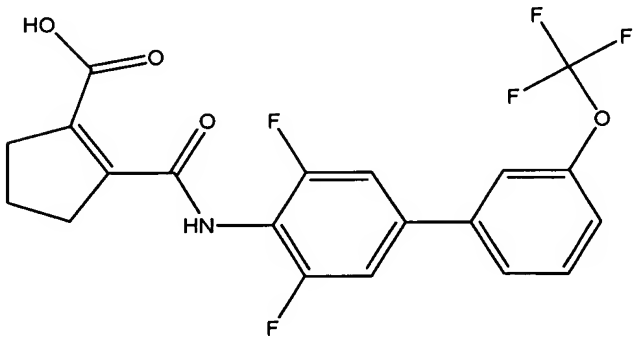
51. A crystal containing a polypeptide and a compound of claim 47 wherein the polypeptide includes a ubiquinone binding site of DHODH.

52. The crystal of claim 48 wherein the compound is compound 1



Compound 1

53. The crystal of claim 48 wherein the compound is compound 2



Compound 2

54. The crystal of claim 48 wherein no salt bridge or hydrogen bridge is formed between the compound and an amino acid residue in subsite 2 of DHODH.

55. The crystal of claim 48 wherein no salt bridge or hydrogen bridge is formed between the carboxylic group of Compound 1 or Compound 2 and the sidechain of Arg136.

56. The crystal of claim 48 wherein the compound forms a hydrogen bond and/or interacts ionically with structural elements of subsite 3 only.

57. The crystal of claim 48 wherein the compound forms hydrogen bond(s) with residues His 56 and/or Tyr 356 of subsite 3 of DHODH.

58. The crystal of claim 48 wherein the compound forms a hydrogen bond with residue Tyr 147 of subsite 3 of DHODH.

59. A method of identifying a compound which is an inhibitor of DHODH comprising the steps of

(a) obtaining the atomic coordinates of the crystal of claim 48;

(b) using said atomic coordinates to define the ubiquinone binding site of DHODH; and

(c) identifying a compound which fits the ubiquinone binding site of DHODH.

60. A method of identifying a compound which is an inhibitor of DHODH comprising the steps of

(d) obtaining the atomic coordinates of the crystal of claim 49;

(e) using said atomic coordinates to define the ubiquinone binding site of DHODH; and

(f) identifying a compound which fits the ubiquinone binding site of DHODH.

61. A method of identifying a compound which is an inhibitor of DHODH comprising the steps of

(g) obtaining the atomic coordinates of the crystal of claim 50;

(h) using said atomic coordinates to define the ubiquinone binding site of DHODH; and

(i) identifying a compound which fits the ubiquinone binding site of DHODH.

62. A method of identifying a compound which is an inhibitor of DHODH comprising the steps of

(j) obtaining the atomic coordinates of the crystal of claim 51;

(k) using said atomic coordinates to define the ubiquinone binding site of DHODH; and

(l) identifying a compound which fits the ubiquinone binding site of DHODH.

63. A method of identifying a compound which is an inhibitor of DHODH comprising the steps of

(m)obtaining the atomic coordinates of the crystal of claim 48;

(n) using said atomic coordinates to define the structural requirements of the inhibitor contained in the polypeptide-inhibitor complex; and

(o) designing a compound on the basis of said structural requirements.

64. A method of identifying a compound which is an inhibitor of DHODH comprising the steps of

(p) obtaining the atomic coordinates of the crystal of claim 49;

(q) using said atomic coordinates to define the structural requirements of the inhibitor contained in the polypeptide-inhibitor complex; and

(r) designing a compound on the basis of said structural requirements.

65. A method of identifying a compound which is an inhibitor of DHODH comprising the steps of

(s) obtaining the atomic coordinates of the crystal of claim 50;

(t) using said atomic coordinates to define the structural requirements of the inhibitor contained in the polypeptide-inhibitor complex; and

(u) designing a compound on the basis of said structural requirements.

66. A method of identifying a compound which is an inhibitor of DHODH comprising the steps of

(v) obtaining the atomic coordinates of the crystal of claim 51;

(w) using said atomic coordinates to define the structural requirements of the inhibitor contained in the polypeptide-inhibitor complex; and

(x) designing a compound on the basis of said structural requirements.

67. A compound obtainable by the method of claim 59.

68. A compound obtainable by the method of claim 60.

69. A compound obtainable by the method of claim 61.

70. A compound obtainable by the method of claim 62.

71. A compound obtainable by the method of claim 63.

72. A compound obtainable by the method of claim 64.

73. A compound obtainable by the method of claim 65.

74. A compound obtainable by the method of claim 66.

75. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 1, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

76. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 39, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

77. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 40, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

78. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a

mammal an effective amount of a compound according to claim 47, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

79. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 67, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

80. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 68, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

81. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 69, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

82. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 70, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

83. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 71, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

84. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 72, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

85. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 73, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

86. A method for treatment of a disease or a therapeutic indication in which inhibition of dihydrooratate dehydrogenase is beneficial which comprises administering to a mammal an effective amount of a compound according to claim 74, a physiologically functional derivative or a pharmacologically tolerable salt thereof.

87. The method of claim 75 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that

are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

88. The method of claim 76 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

89. The method of claim 77 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

90. The method of claim 78 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

91. The method of claim 79 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

92. The method of claim 80 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

93. The method of claim 81 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by

viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

94. The method of claim 82 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

95. The method of claim 83 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

96. The method of claim 84 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

97. The method of claim 85 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.

98. The method of claim 86 wherein the disease or indication is selected from the group consisting of rheumatism, acute immunological disorders, autoimmune diseases, diseases caused by malignant cell proliferation, inflammatory diseases, diseases that are caused by protozoal infestations in humans and animals, diseases that are caused by viral infections and *Pneumocystis carinii*, fibrosis, uveitis, rhinitis, asthma or athropathy.